APRIL/MAY 2024

CAEL44/BAEL44/FAEL42 — BASIC PHYSICS – II

Time : Three hours Maximum : 75 marks

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SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Define diffraction.
2. State Biot Law.
3. What is Raman effect?
4. What is Tyndall scattering?
5. What is Pauli's exclusion principle?
6. What is isotope?
7. Classify elementary particles.
8. What are the limitations of liquid drop model?
9. What is frame of reference?
10. What is Lorentz-Fitzgerald contraction?

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) How do you measure wavelength by Newton's rings?

Or

(b) Describe the Fraunhofer diffraction.

12. (a) Explain the experimental study of Raman effect.

Or

(b) Explain the He-Ne laser.

13. (a) What are the uses of radio isotopes?

Or

(b) Explain Vector atom model.

14. (a) Give the basic ideas of quark.

Or

(b) Explain the significance of magic numbers.

15. (a) What is meant by length contraction? Explain briefly.

Or

(b) What are the postulates of special theory of relativity?

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SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Determine specific rotatory power by half shade polarimeter.

17. Describe the construction and working of Ruby laser.

18. Discuss the Millikan's experiment.

19. Discuss the liquid drop model.

20. Explain the variation of mass with velocity.

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